Fig. 1

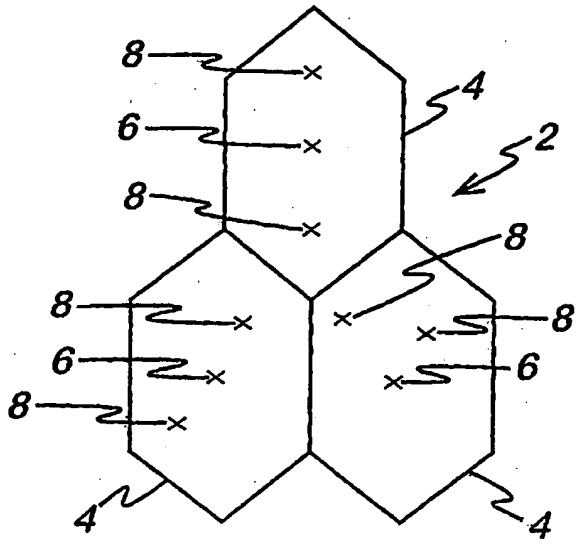

Fig. 2

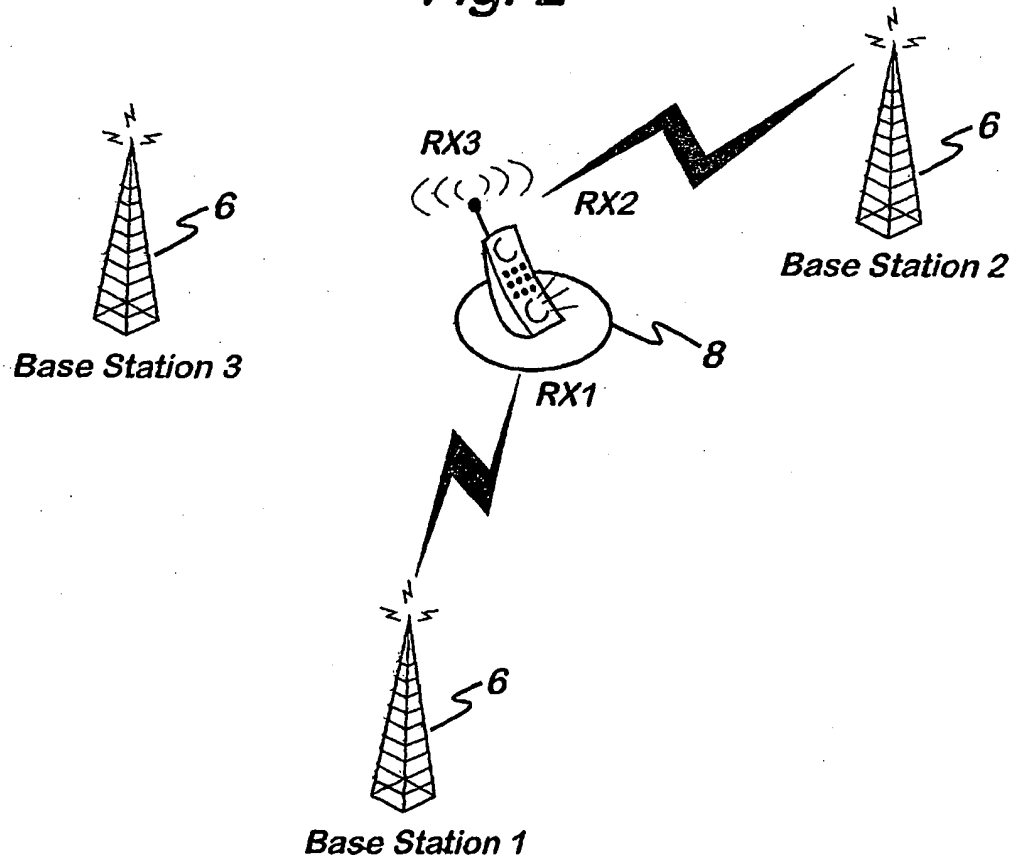

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Fig. 3

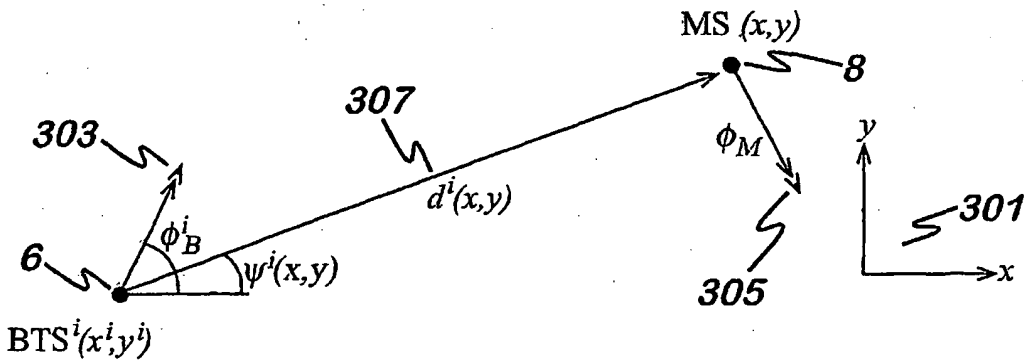


Fig. 4

Example of antenna gain

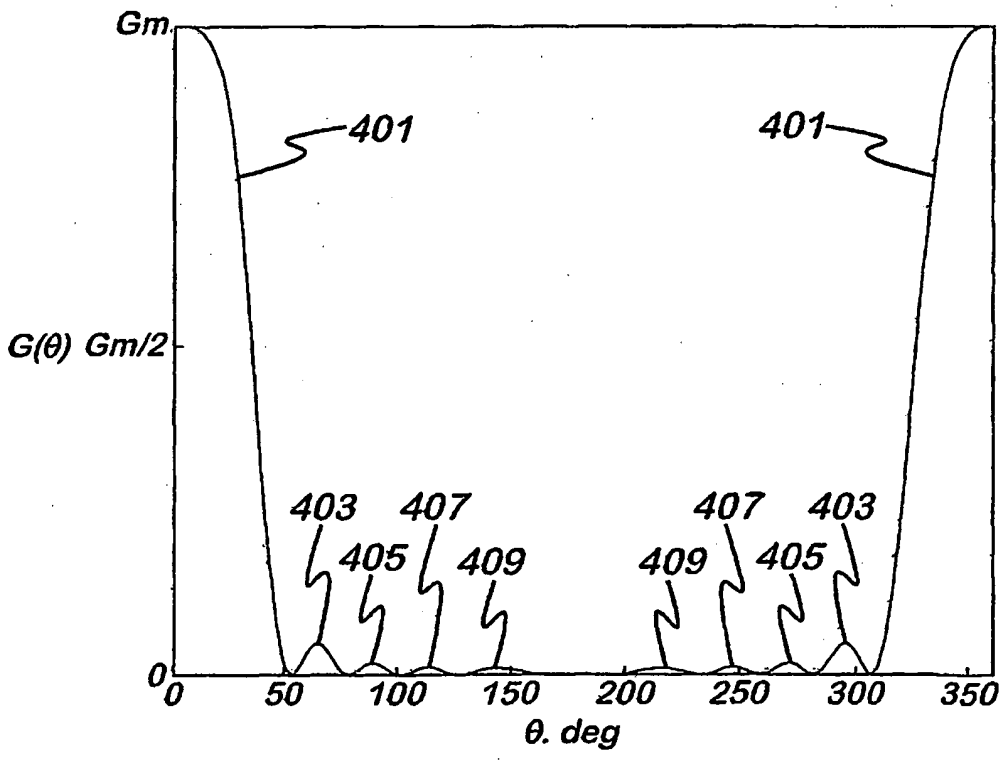
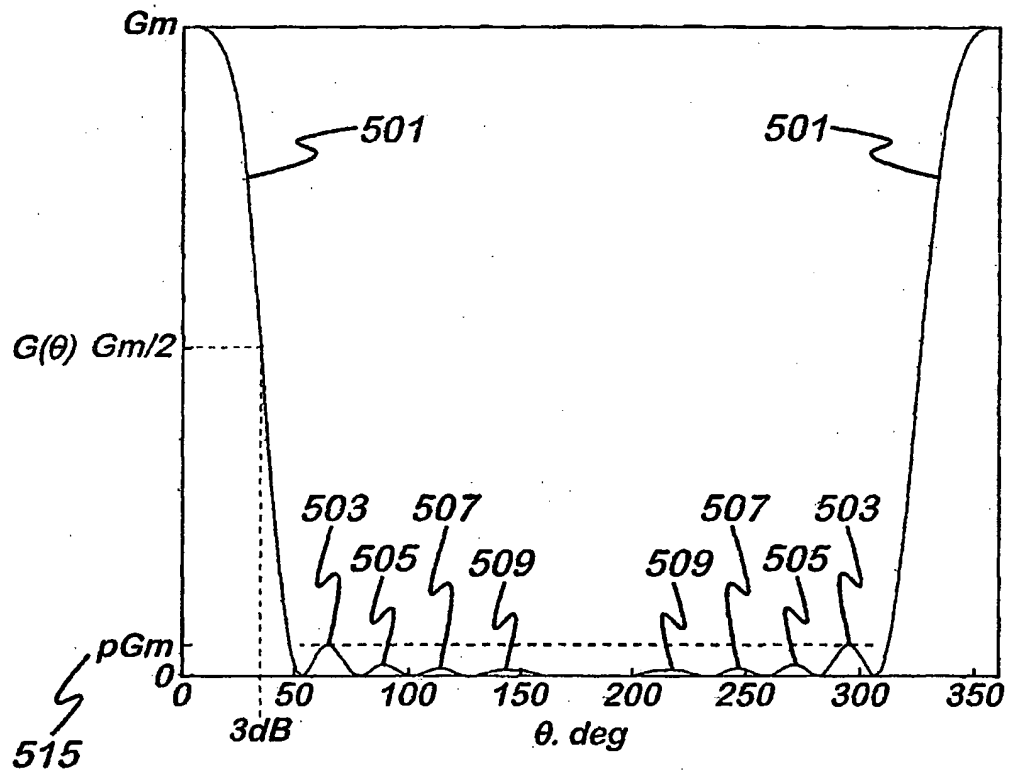


Fig. 5


Gm
501
501
G(θ) Gm/2
503
507
505
509
509
507
505
503
pGm
0
515
0
50
100
150
200
250
300
350
3dB
θ. deg

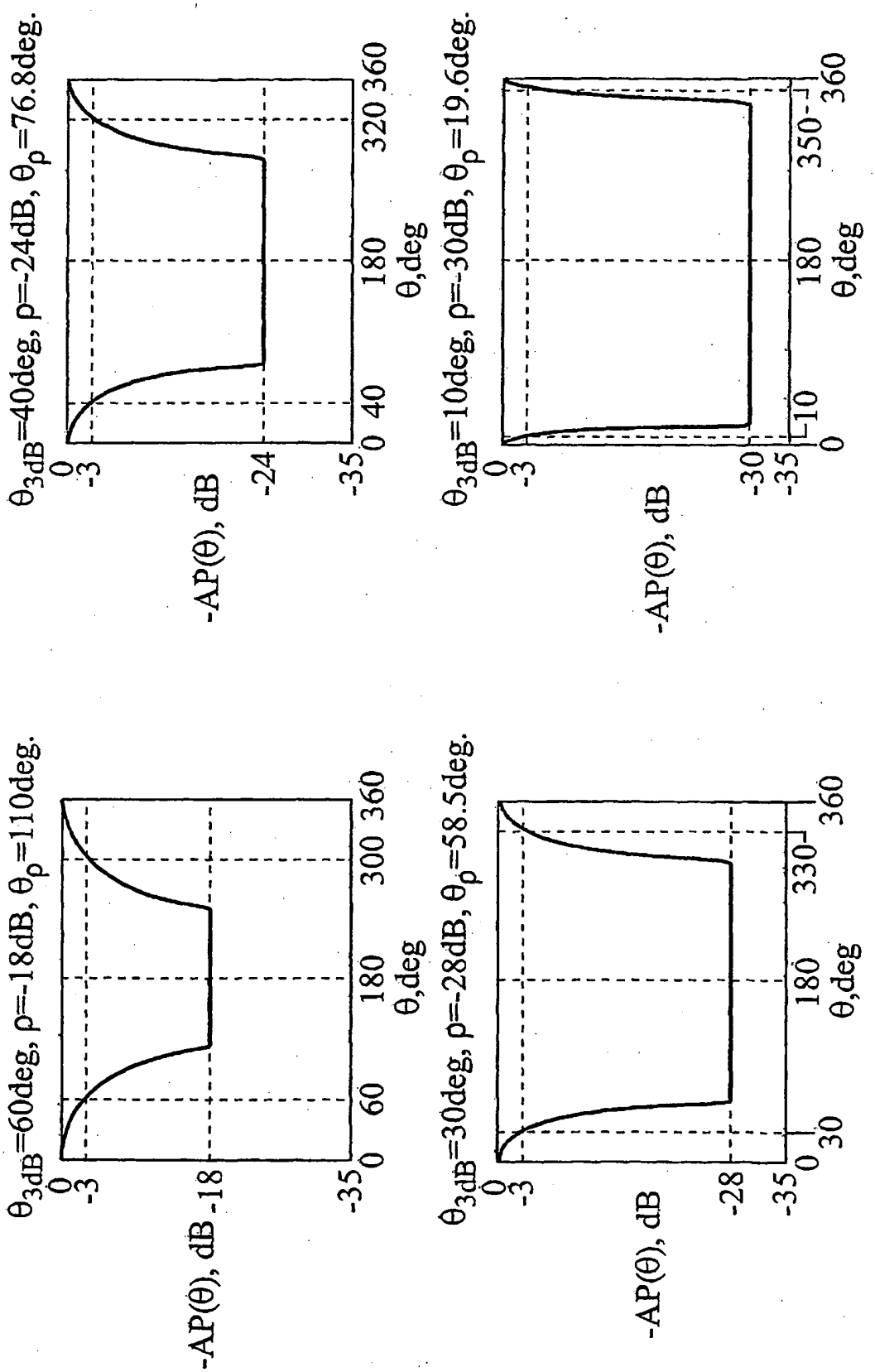


Fig. 6 Plots of radiation patterns approximated with the $\cos^2 x$-law. Notice that in the figures the functions $-AP(\theta)$ are depicted.

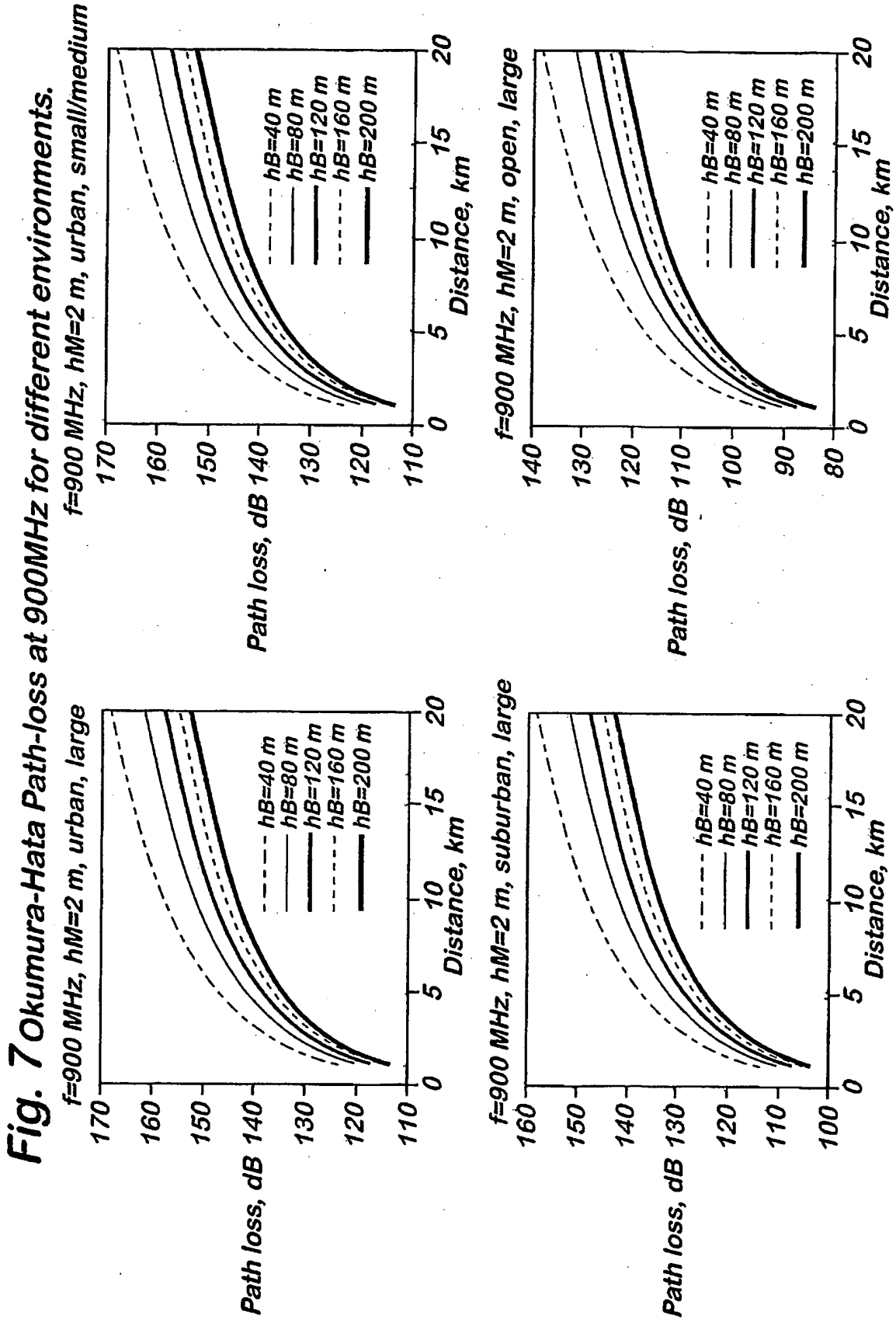


Fig. 7 Okumura-Hata Path-loss at 900MHz for different environments.

Fig. 8

D from Cell Identity (and Timing Advance) of serving cell

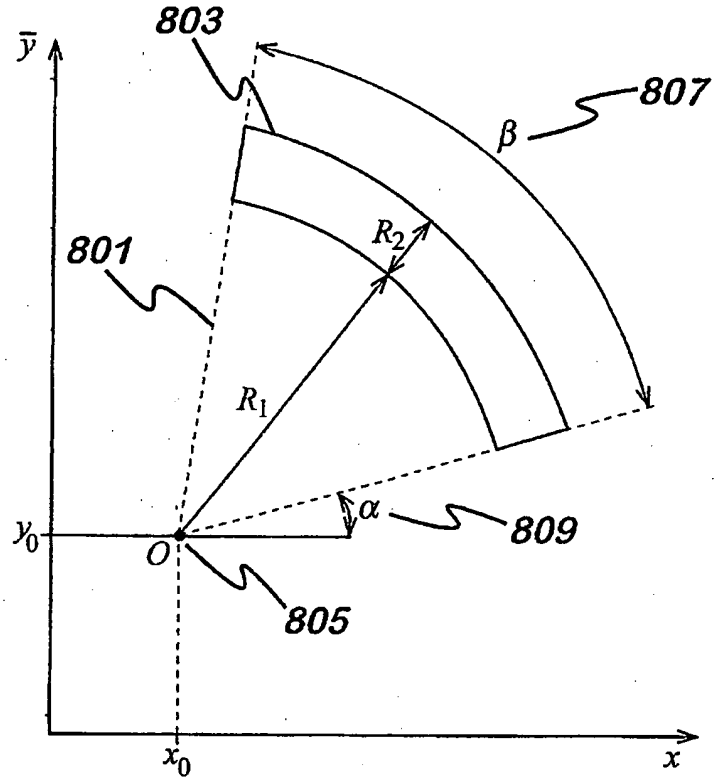


Fig. 9

D defined from Cell Identity of cells involved

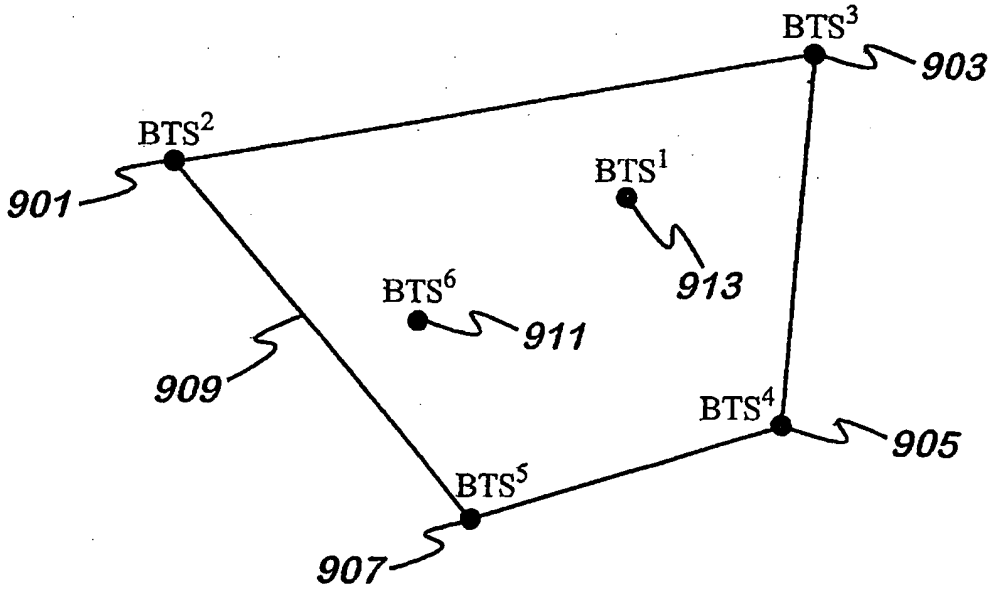
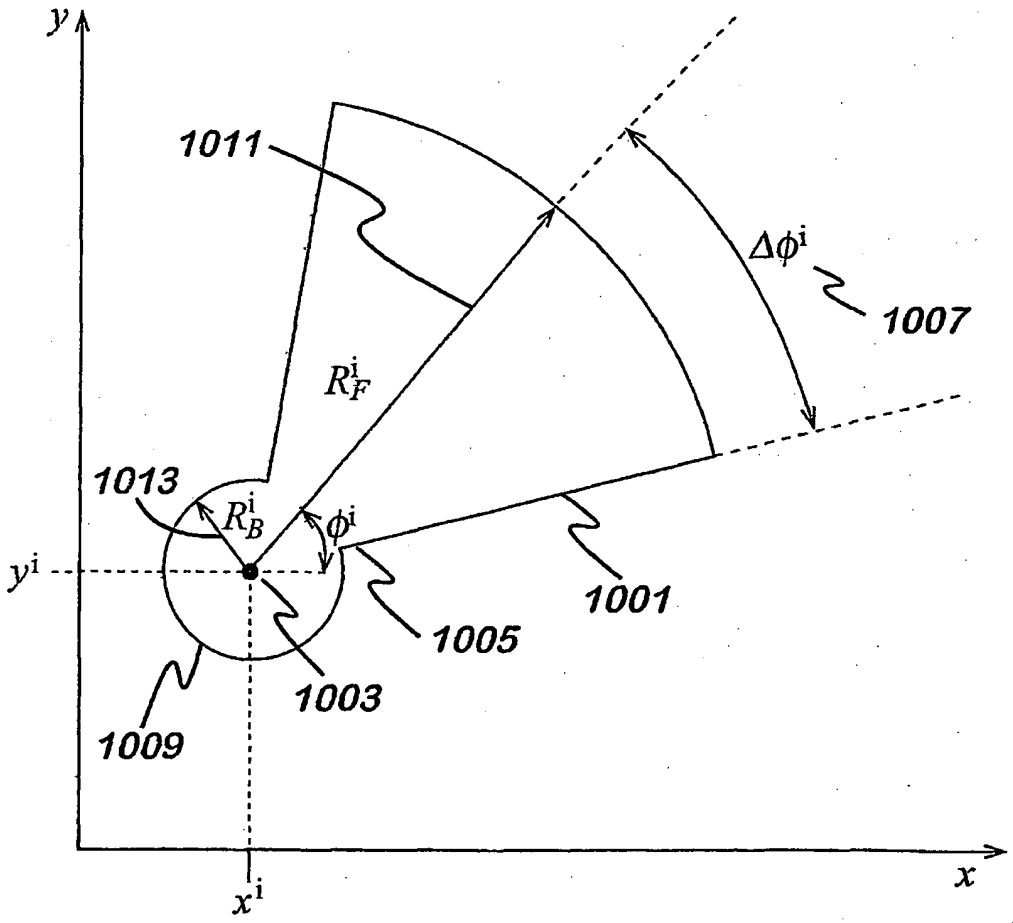


Fig. 10

Analytical definition for D_i



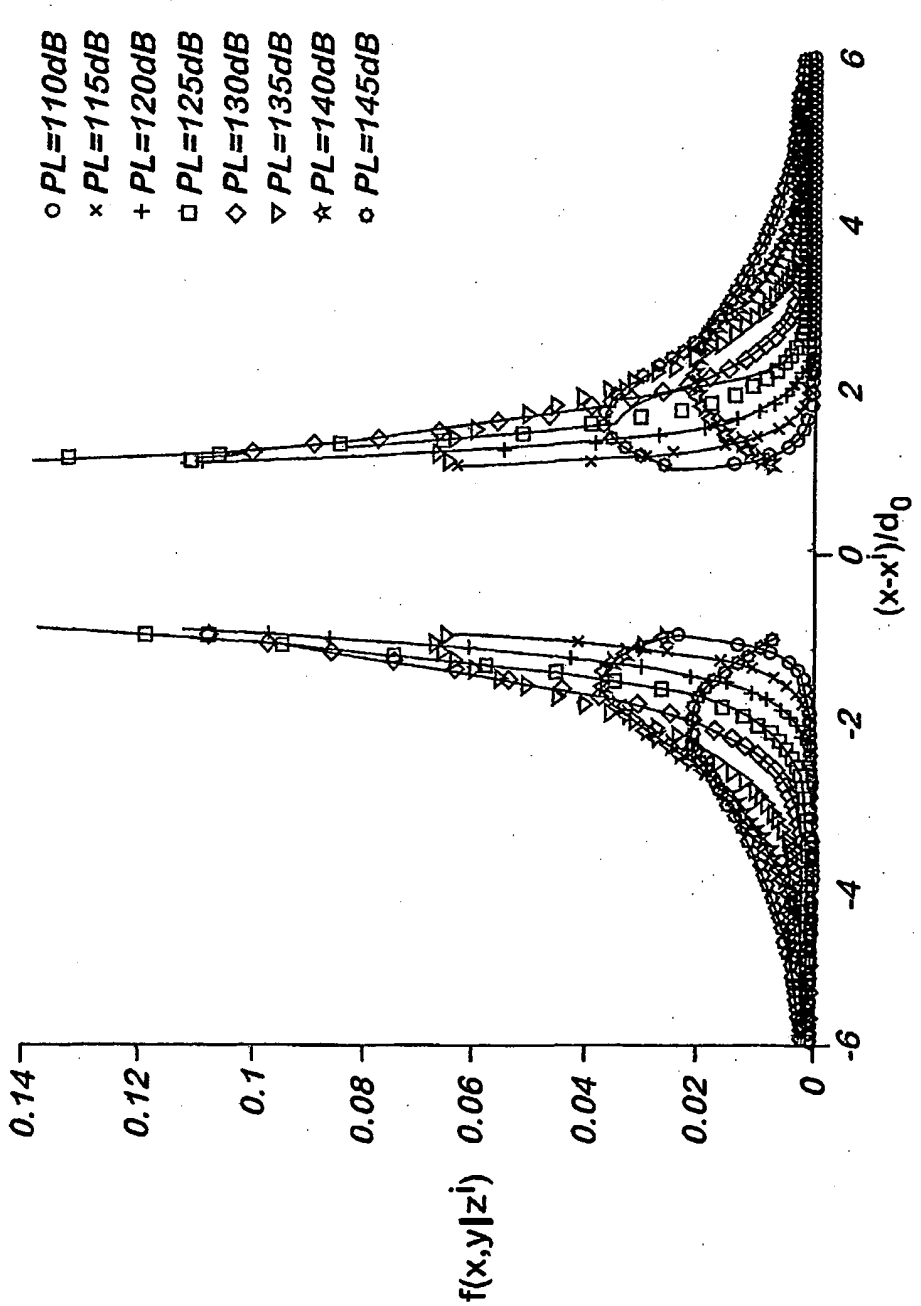

PDF f(x,y|z^i) in the plane y=y^i. σ_u=8, A=125, B=40
Plot of f (x,y/z^i) in equation (30) for different values of path-loss/attenuation.
PL=110dB
PL=115dB
PL=120dB
PL=125dB
PL=130dB
PL=135dB
PL=140dB
PL=145dB
f(x,y|z^i)
(x-x^i)/d_0
0.14
0.12
0.1
0.08
0.06
0.04
0.02
0
-6
-4
-2
0
2
4
6

Fig. 11

Fig. 12 Plots of I_{i0} in equation (45) as a function of path-loss/attenuation

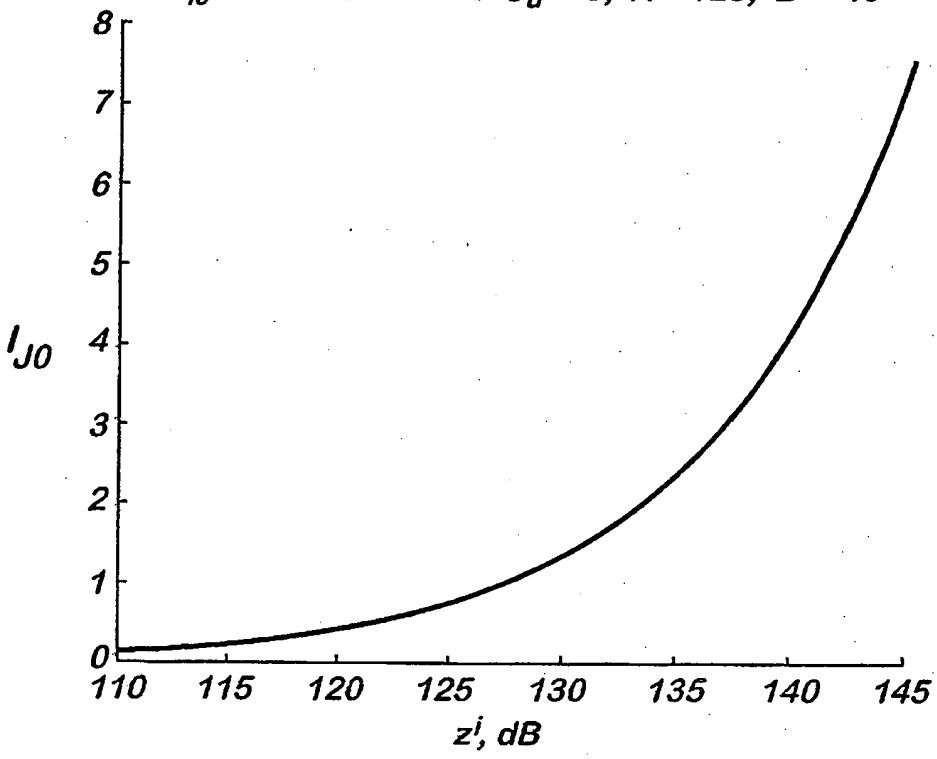


Fig. 13 Example of serving area

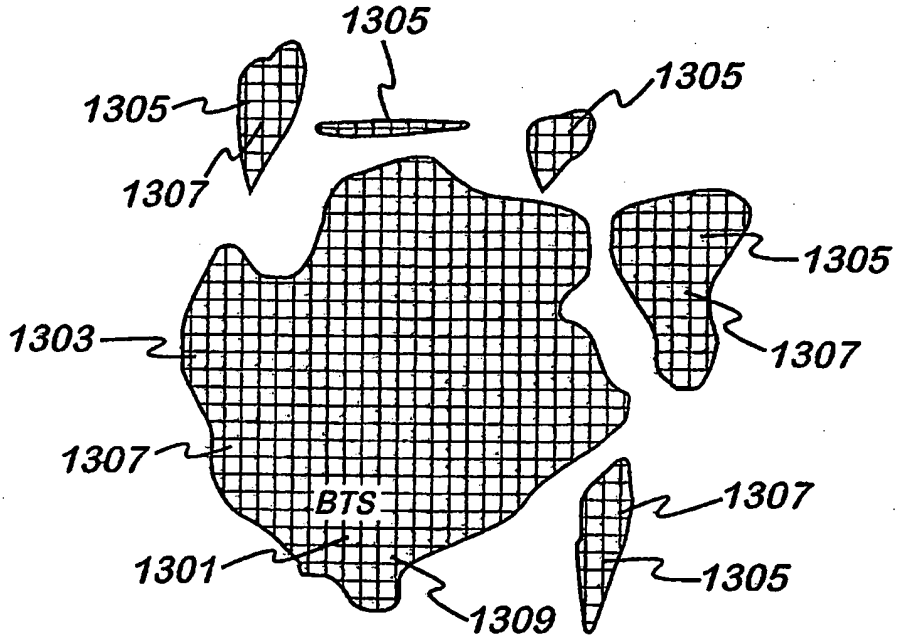


Fig. 14
The constant-TA circular crown defined in equation (54)

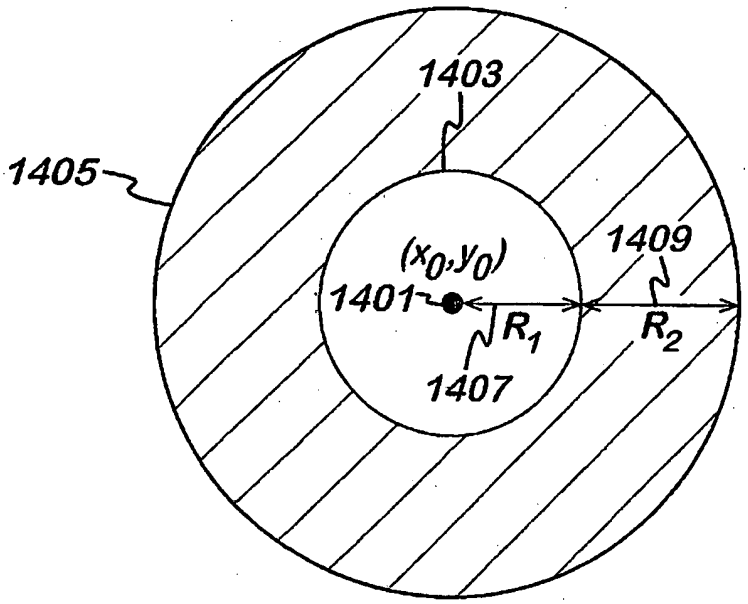
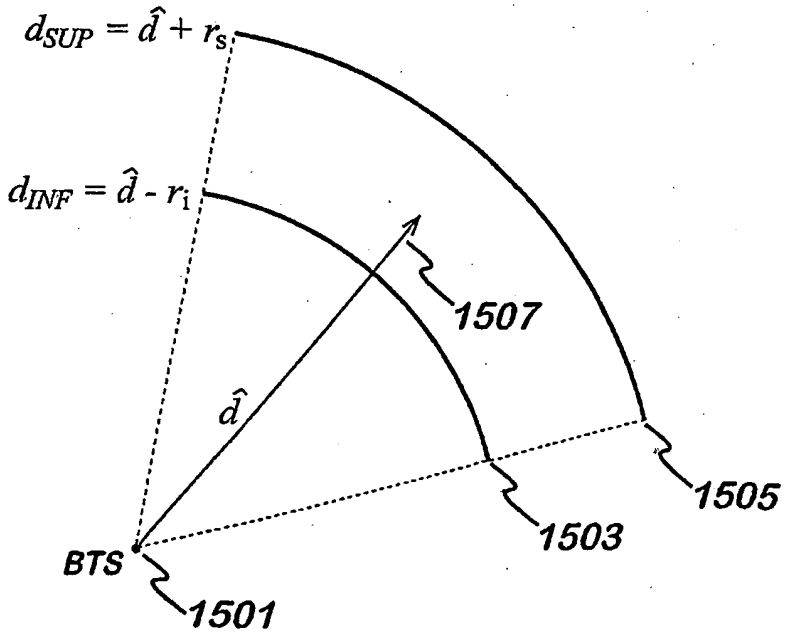


Fig. 15
Definition of estimate of distance and its confidence interval



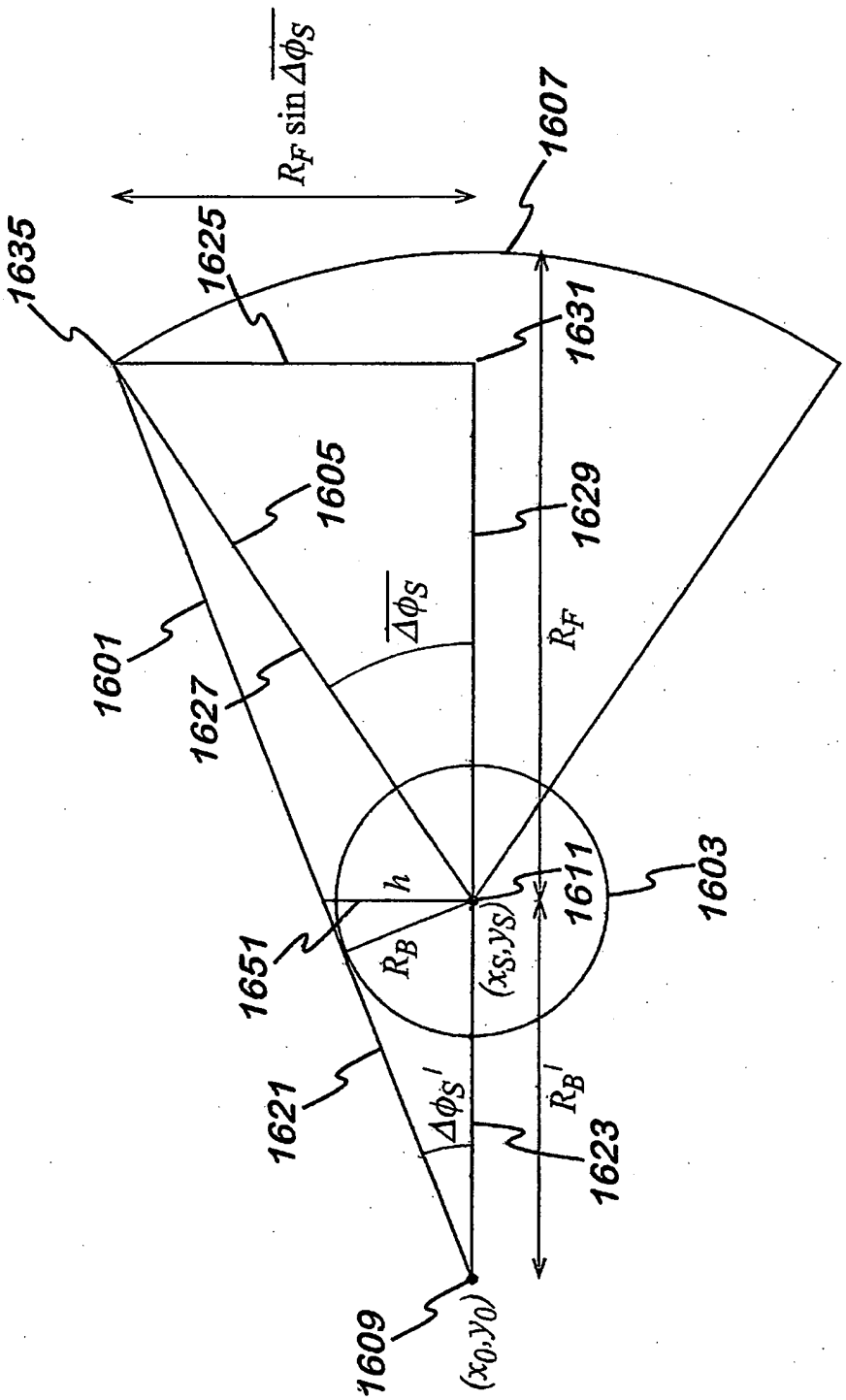
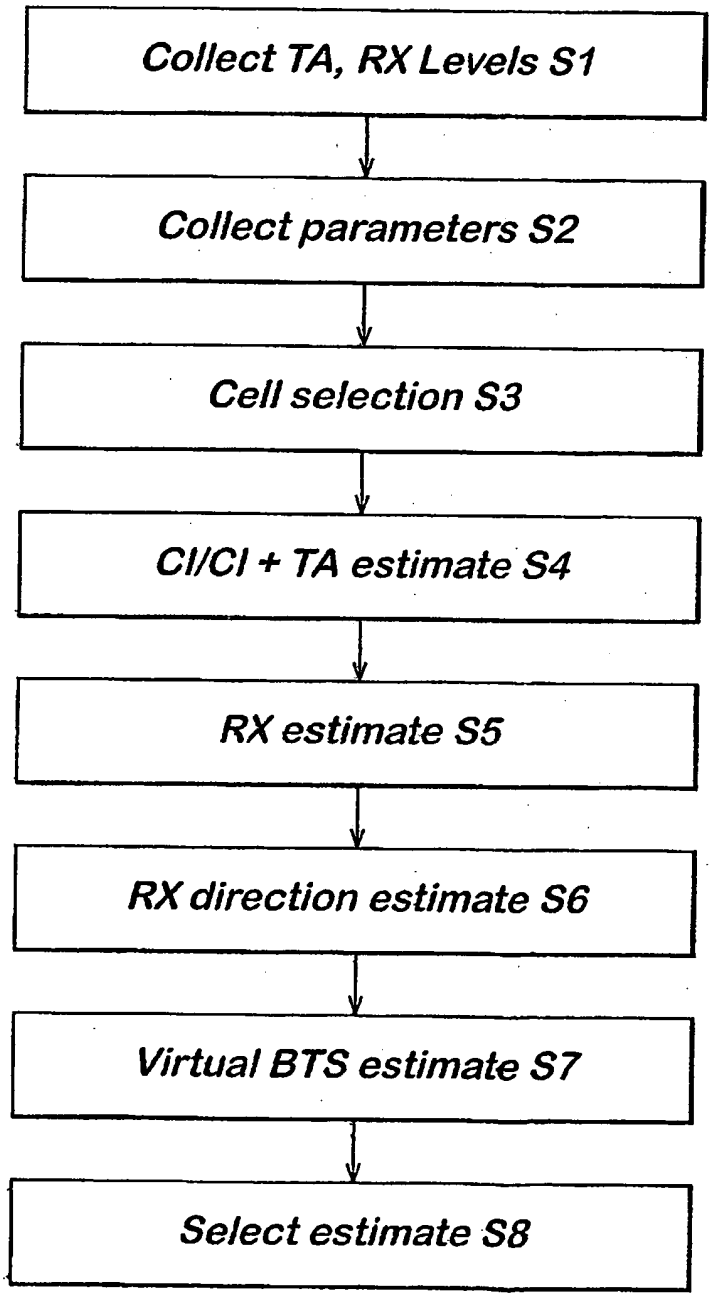


Fig. 16

Geometry used for calculating the confidence region in the Classic CI Location Algorithm when the serving cell is sectorized. The origin of the confidence region is at (x_0, y_0). The angular width of the confidence region is $\beta = 2\Delta\phi_S'$.

Fig. 17


Collect TA, RX Levels S1
Collect parameters S2
Cell selection S3
CI/CI + TA estimate S4
RX estimate S5
RX direction estimate S6
Virtual BTS estimate S7
Select estimate S8

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